



TRANSMITTAL

In Reply Application of:  
Stephen FACTOR et al.

Serial Number: 10/623,686

Filed: July 21, 2003

For: Simultaneous Reduction in NOx and  
Carboxin Ash from Using Manganese  
in Coal Burners

Confirmation No.: 5322

CERTIFICATE OF MAILING UNDER 37 C.F.R. § 1.8

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Beth Earnest

Commissioner for Patents  
P. O. Box 1450  
Alexandria, VA 22313-1450

Sir:

Transmitted herewith are the following in the subject application:

Information Disclosure Statement (no fee)  
Forms PTO/SB/08A&B listing 80 references and attaching 25 references  
Return Postcard (attached hereto, but not stapled)

It is believed that there are no fees associated with this filing. However, in the event the calculations are incorrect, the Commissioner is hereby authorized to charge any deficiencies in fees or credit any overpayment associated with this communication to Deposit Account No. 05-1372. A duplicate copy of this sheet is attached.

Respectfully submitted,

ETHYL PETROLEUM ADDITIVES, INC.

Leah O. Robinson, Reg. No.: 44,990

330 South Fourth Street  
Richmond, VA 23219  
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FAX: 804-788-5519

Date: April 27, 2004

**In re Patent Application of:  
Stephen Factor et al.**

**Confirmation No.: 5322**

## For: Simultaneous Reduction in NO<sub>x</sub> and Carbon in Ash from Using Manganese in Coal Burners

## INFORMATION DISCLOSURE STATEMENT UNDER 37 CFR 1.97

It is respectfully requested that these references be fully considered in their entirety, and that the references be made of record in the above-captioned application. It is also respectfully requested that the Examiner initial in the appropriate area on the enclosed Form PTO/SB/08A, thereby indicating the Examiner's consideration of each of the references.

Fees

As this Information Disclosure Statement is submitted before the date of a first Office Action on the merits, it is believed that no fees are due. However, in the event the calculations are incorrect, the Commissioner is hereby authorized to charge any deficiencies in fees or credit any overpayment associated with this communication Deposit Account No. 05-1372.

Conclusion

It is believed that all provisions of 37 CFR 1.97 have been complied with, and consideration of these references is most respectfully requested.

Respectfully Submitted,

ETHYL PETROLEUM ADDITIVES, INC.

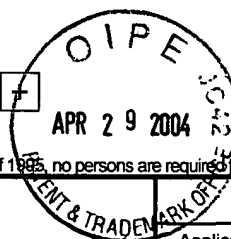
A handwritten signature in black ink, appearing to read "Leah O. Robinson". The signature is fluid and cursive, with the first name "Leah" being more prominent.

Leah O. Robinson, Reg. No. 44,990

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Date: April 27, 2004

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## INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(use as many sheets as necessary)

Complete if Known

Sheet 1 of 5

Application Number	10/623,686
Filing Date	July 21, 2003
First Named Inventor	Steve A. Factor, et al.
Group Art Unit	1714
Examiner Name	Not Assigned
Attorney Docket Number	EI-7597

### U.S. PATENT DOCUMENTS

Examiner Initials *	Cite No. <sup>1</sup>	U.S. Patent Document		Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number	Kind Code <sup>2</sup> (if known)			
		US 6,361,754 B1		Peter-Hoblyn et al.	3/26/2002	
		US 6,200,358 B1		Fleischer et al.	3/13/2001	
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		5,758,496		Rao et al.	6/2/1998	

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		Office <sup>3</sup>	Number <sup>4</sup>	Kind Code <sup>5</sup> (if known)				
		EP	0 466 512	B1	Leeper	6/29/94		
		EP	0 507 510	A1	Hollrah, Don Paul et al	10/07/92		
		EP	0 667 387	A2	Perry, Newton A. et al	8/16/1995		
		EP	0668 899	B1	Peter-Hoblyn et al	09/20/00		

Examiner  
Signature

Date  
Considered

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Sheet 2 of 5

## **Complete if Known**

Application Number	10/623,686
Filing Date	July 21, 2003
First Named Inventor	Steve A. Factor, et al.
Group Art Unit	1714
Examiner Name	Not Assigned
Attorney Docket Number	EI-7597

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		Number	Kind Code <sup>2</sup> (if known)			
		5,732,548		Peter-Hoblyn	3/31/1998	
		5,679,116		Cunningham et al.	10/21/1997	
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		4,568,357		Simon	2/4/1986	

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		Office <sup>3</sup>	Number <sup>4</sup>	Kind Code <sup>5</sup> (if known)				
		EP	1 368 444	A1	Openshaw et al.	12-10-2003		
		WO	02/48293	A1	Roos et al.	06-20-2002		

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Signature

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Attorney Docket Number

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10/623,686

**July 21, 2003**

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		4,474,580		MacKenzie et al.	10/2/1984	
		4,390,345		Somorjai	6/28/1983	
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		20030177758		Roos et al.	11/25/2003	
		6,206,685		Zamansky, et al.	3/27/2001	
		6,039,772		Orr	3/21/2001	

## FOREIGN PATENT DOCUMENTS

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Signature**

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		First Named Inventor	Steve A. Factor, et al.		
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		Examiner Name	Not Assigned		
Sheet	4	of	5	Attorney Docket Number	EI-7597

OTHER PRIOR ART -- NON PATENT LITERATURE DOCUMENTS			
Examiner Initials *	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>2</sup>
		Faix, Louis J.; A study if the Effects of Manganese Fuel Additive on Automotive Emissions; SAE [Tech. Pap.], 780002, pp. 1-12	
		Fekete, Nicholas; Gruden, Igor; Voigtlander, Dirk; Nester, Ulrich; Krutzsch, Bernd; Willand, Jurgen; and Kuhn, Michael; Advanced Engine Control and Exhaust Gas Aftertreatment of a Leanburn SI Engine; SAE [Tech. Pap] 972873; pp. 1-10	
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		Eastwood, Peter; Critical Topics in Exhaust Gas Aftertreatment; Research Studies Press Ltd. (2000), pp. 215-218	
		Lenane, D. L.; Effect of MMT on Emissions from Production Cars; SAE [Tech. Pap.], 780003, pp. 1-20	
		Lenane, D. L.; Effect of a Fuel Additive on Emission Control Systems; sae [Tech. Pap.] 902097, pp. 1-17	
		Farrauto, Robert J.; Mooney, John J.; Effects of Sulfur on Performance of Catalytic Aftertreatment Devices; SAE [Tech. Pap.] 920557, pp. 1-7	
		Jelles, S.J.; Makkee, M.; Moulijn, J.A.; Acres, G.J.K.; and Peter-Hoblyn, J.D., Diesel Particulate Control. Application of an Activated Particulate Trap in Combination with Fuel Additives at an Ultra Low Dose Rate; SAE [Tech. Pap.], 1999-01-0113, pp. 1-6	
		Eolys™ Fuel-Borne Catalyst for Diesel Particulates Abatement: A Key Component of an Integrated System, DieselNet Technical Report, Sept. 1999, pp.1-9.	
		Guyon, M.; Blejean, F.; Bert, C.; LeFaou, PH.; Impact of Sulfur on Nox Trap Catalyst Activity-Study of the Regeneration Conditions; SAE [Tech. Pap.] 982607, pp. 87-95	

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Sheet 5 of 5	Attorney Docket Number	EI-7597	

OTHER PRIOR ART -- NON PATENT LITERATURE DOCUMENTS			
Examiner Initials *	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>2</sup>
		Arakawa, Kenji; Matsuda, Satoshi; and Kinoshita, Hiroo; Progress in Sulfur Poisoning Resistance of Lean NOx Catalysts; SAE [Tech. Pap.] 980930, pp. 111-118	
		Dearth, Mark A.; Hepburn, Jeffrey S.; Thanasiu, Eva; McKenzie, JoAnne; Home, Scott G.; Sulfur Interaction with Lean Nox Traps: Laboratory and Engine Dynamometer Studies; SAE [Tech. Pap.] 982595, 1998, pp. 1-9	
		Aradi, Allen A.; Roos, Joseph W.; Fort, Jr., Ben F.; Lee, Thomas E.; and Davidson, Robert I.; The Physical and Chemical Effect of Manganese Oxides on Automobile Catalytic Converters; SAE [Tech. Pap.] 940747, pp. 207-218	
		Bailie, J. D.; Michalski, G. W.; Unzelman, G. H., MMT-A Versatile Antiknock; Natl. Pet. Refiners Assoc., [Tech. Pap.], AM-78-36, pp. 1-20	
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		Nelson, A.J.; Ferreira, J.L.; Reynolds, J.G.; Schwab, S.D.; and Roos, J.W.; X-Ray Absorption Characterization of Diesel Exhaust Particulates; Article in Materials Research Society Symposium Proceedings, Vol. 590, 2000, pp. 63-69	
		Stultz, S.C., Kitto, J.B., Editors; "NOx Formation conditions"; Babcock & Wilcox, a McDermott Company; Steam, its generation and use. 40th ed., p. 34-4 to 34-9. 1992.	
		MILLER, R. et al., "A Super-Extended Zel'dovich Mechanism for NOx modeling and Engine Calibration," SAE Technical Paper 980781, 1998.	

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